

MEETING SUMMARY

INTERAGENCY ECOLOGICAL PROGRAM ENVIRONMENTAL MONITORING PROGRAM REVIEW 2001

**JULY 30, 2001
U.C. DAVIS MEMORIAL UNION
DAVIS, CA**

Present:

SAT members: Heather Peterson, Jan Thompson, Cindy Messer, Bruce Thompson,
Jon Burau, Hank Gebhard, Art Hinojosa, Anke Mueller-Solger, Zach Hymanson,
Rainer Hoenicke, Ken Lentz, Wim Kimmerer, Jim Orsi

SAG member: Jim Cloern

At large participants: Nick Wilcox, Gita Kapahi, Tina Swanson, Lee Mecum, Sam
Harader, Fred Lee, Claus Suverkropp, Elizabeth Soderstrom, Erwin Van
Nieuwenhuysen, Randy Brown

EMP staff: Steve Hayes, Scott Waller, Karen Gehrts, Mike Dempsey

Facilitator: Carolyn Penny

Meeting Summary Prepared by Carolyn Penny

WORKSHOP GOAL

**The overall goal of this meeting is to convene presentations and discussion of the
subject area monitoring reviews and plans.**

AGENDA

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| 9:00 | Refreshments |
| 9:10 | Welcome Anke Mueller-Solger (DWR) and Carolyn Penny (Meeting Facilitator) |
| 9:30 | Water Quality Subject Area Team Report Zachary Hymanson (DWR) and Jon Burau (USGS) |
| 10:30 | Coffee Break |
| 11:00 | Discussion of the Water Quality Subject Area Team Report Zachary Hymanson (DWR) and Jon Burau (USGS) |
| 12:00 | Lunch and Afternoon Logistics Carolyn Penny (Meeting Facilitator) |
| 12:05 | Lunch |
| 13:00 | Zooplankton Subject Area Team Report and Discussion Wim Kimmerer (SFSU) |
| 14:00 | Benthos Subject Area Team Report and Discussion Heather Peterson (USGS) |

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| 15:00 | Coffee Break |
| 15:15 | Phytoplankton Subject Area Team Report and Discussion Anke Mueller-Solger, EMP (DWR) |
| 16:15 | Parking Lot Issues/Rocks In Shoes Carolyn Penny (Meeting Facilitator) |
| 16:40 | Meeting Conclusion and Next Steps Zachary Hymanson (DWR) and Carolyn Penny (Meeting Facilitator) |

WELCOME

Participants reviewed and agreed to live with the following ground rules:

- (1) Everyone will treat everyone else with respect.
- (2) Each person will strive to be complete and concise so we can stick to the schedule today and overall.
- (3) We will share the floor. No one or two people will dominate the discussion.
- (4) We will stick to the topic under discussion.
- (5) During brainstorming, ideas will be listed without criticism or evaluation.
- (6) Participants will not interrupt each other.
- (7) Participants will engage fully in discussion.
- (8) The facilitator will manage the discussion. As manager of the discussion, the facilitator may intervene to keep the conversation on track and on time.

DISCUSSION OF THE WATER QUALITY SUBJECT AREA TEAM REPORT

After a presentation by Zachary Hymanson and Jon Burau (see website for presentation materials), participants held a discussion and question and answer period:

- Does this design meet Jon's temporal and spatial concerns re: variability?
 - Yes- stations where we put them here meet those concerns.
- Is this report now a straw man for reaction?
 - Yes.
 - Process:
 - Early Aug.- completion of report.
 - Aug.- review & revision.
 - Aug. 22- SAT leader meeting.
 - Make sure to get client and customer input along the way.
- What else do we need to add that isn't included in Water Quality SAT report? What holes are there?
 - Can better answer after other presentations today. Include as a Parking Lot issue at 16:15.

- How are the input comments integrated?
 - Overlay needs - boundary lines.
 - Conceptual model - understanding of system.
- General Considerations:
 - Include explicit statement of data/info flow in & out and connection to other efforts.
 - Year 1: New person on board for data management won't completely handle the issue – Ask clientele how will use data and in what form – Put as much thought into this as into what data to be collected – Upfront effort required.
 - Year 1: 8 new continuous monitoring stations – Where do funds come from?
 - Efficiencies can fund Operations and Maintenance.
 - Acquisition of instruments and initial deployment - aiming for CALFED funding.
 - Suisun Marsh compliance monitoring stations not yet mentioned.
 - Data from Sausalito- applicability (or not) not yet mentioned.
 - Need ways to explore linkages (example: salinity) between temporal and spatial variability.
- Conductivity Temperature Depth profiling- how does this fit in?
 - Ongoing tension, unresolved.
 - Will still have a role with zooplankton, quality control, and special studies.
- Good job identifying information needs and recent developments such as reliable sensors and shallow water habitat needs.
- Representativeness:
 - More work on station location.
 - What is represented by each one?
 - Special studies to examine.
 - Gap between stations 19 and 20.
 - Data being gathered.
 - Include at one website.
- What's being lost through these changes and what does it mean for continuity?
- Data and Information Management:
 - Need roadmap for how this will be done.

- Estimate loads
 - Include measurements of fluxes between parts of the system.
 - Hydrodynamic measurements part of monitoring? Lower Bay stations- significant change and cost. Tough. There are already some measurements occurring. If look at fluxes, need to keep in mind and track lateral variability.
- Total organic carbon- what does that tell you from an ecosystem perspective?
 - SWRCB interested in TOC measurement due to drinking water concerns.
- Needs statements from the presentation - are they the monitoring questions?
 - Yes.
 - Make that explicit. State that “We’ll monitor to answer these questions.” That focuses monitoring plan and data analysis.
- Hard to mix fluxes, status and trends, process monitoring approaches. If the questions are compatible, more than 1 approach is possible.
- Look more at what’s lost/gained through various monitoring station changes.
 - Tension with specific needs in specific areas (example: Dissolved Oxygen in Deep Water Shipping Channel).
- Monitoring program must have ways to learn and evolve from info being gathered. Also must continue to meet water rights decision mandates.

DISCUSSION OF THE ZOOPLANKTON SUBJECT AREA TEAM REPORT

After a presentation by Wim Kimmerer (see website for presentation materials), participants held a discussion and question and answer period:

- How change current system of size fractionation?
 - Count taxonomy from a whole sample, not by size fractionation.
- Conductivity, temperature, chlorophyll - measured ancillary to zooplankton - will continue. Will be accessible in database.
- Biomass measurements will be rough. Has been discussed as part of ancillary studies.
 - Biomass measurements are much more work in upper Delta due to detritus.
 - Biomass measurements/calculations would be useful.
- Be explicit about what measurements are desired re: zooplankton.

- Anything that's counted goes into database.
- Database is being prepared for integration into IEP database.
- Bay Delta Science Consortium - Dealing with issue of how to share data.
- There's an issue throughout the subject areas:
 - How data is characterized (example: taxonomic classifications).
 - How to achieve flexibility and consistency.
 - How to make data accessible within and across data areas.
- Zooplankton- report will be sent out to meeting participants for review in August.
- List proposed special study areas explicitly.

DISCUSSION OF THE BENTHOS SUBJECT AREA TEAM REPORT

After a presentation by Heather Peterson (see website for presentation materials), participants held a discussion and question and answer period:

- What is the history of EMP benthos monitoring?
 - Spotty before 1980.
 - Stanford Research Institute recommended.
 - Present design since 1996.
- Are there sites that have been continuously monitored?
 - Yes, 4.
- Sites and frequency of monitoring have changed.
- Table to show each site's history recommended.
- Now, we have greater understanding of how to use benthic data. Time to analyze monitoring program.
- Benthic monitoring needs internal champion.
- Ecologists recognize importance of benthic data.

- With benthos, hard to get data that's fully representative. Therefore, biomass calculations difficult.
 - Still get valuable data.
 - Would need special studies on degree of variability.
- Need basic biology and data monitoring so can answer process questions (examples: how animals cycle on a seasonal basis, who checks in when someone else checks out). State the question explicitly.
- Definition of representativeness. State explicitly.
- No advantage to concurrent water quality sampling. However, notes regarding sediment important.
- Benthic team will continue to look at question of whether/how to get information on other factors, for example salinity.
- Recommendations need to be specific on how to accomplish outcomes.
- There may be value in examining contaminant data along with benthic data.
- There is an overall coordination issue regarding the logistics of sampling – boat schedules, weather, etc.

DISCUSSION OF THE PHYTOPLANKTON SUBJECT AREA TEAM REPORT

After a presentation by Anke Mueller-Solger (see website for presentation materials), participants held a discussion and question and answer period:

- Why not add a bunch of stations beyond Suisun Bay?
 - Expense - if do it to level of species/volume.
 - USGS monitoring.
- Taxonomic data worked on less than biomass data.
- Can you get the info you need by looking at bloom organisms or size fractionation?
 - Perhaps.
 - Might miss invasions of exotic species.
- Community composition information could be very useful -
Example: selenium uptake variability.

- Hard to imagine allocating hours toward analyzing variable that might prove important.
- Maybe approach should be cutting down on samples but better analysis of samples taken.
- Quality assurance and control are very important.
- What do we do with current program (monthly at 11 stations)?
 - Continue until we know how good or bad it is.
 - Link to water quality and zooplankton.
 - Special studies to evaluate how good it is. Complete before next EMP review.
- Keep in mind the need to have multiple analysts involved to ensure continuity and quality control.
 - In the works in addition to peer review.
 - More can be done.
 - A dozen samples will be sent to Jim Cloern.
- Need to do a better job of articulating why study phytoplankton.
 - Nutrient criteria - upcoming EPA standards. These issues will become even more important.

PARKING LOT ISSUES/ROCKS IN SHOES

Participants first addressed the issues that had been held for discussion after the subject area team reports.

Parking Lot Issue #1: What are the holes or what is missing from the EMP Review discussion so far?

- Special Studies
 - Where do resources come from?
 - How do they get integrated into the program?
- Fundamental logistics
 - System limitations (e.g. vessel speed).
 - Maintenance.
 - Factoring this information into the plans.

- Connection to fish
 - Explicit statement of linkage.
- Hydrodynamics
 - Not part of review, but part of Jon's work.
- Neutrification Issues
 - Floating Macrophytes.
 - Attached Algae.
- Missing Taxonomic Groups
 - Bacteria.
 - Microzooplankton.
 - Benthic Microalgae.
- Phytoplankton Primary Production
- Contaminate Effects

Parking Lot Issue #2: How should the EMP handle data issues?

- The desire is to handle data issues IEP-wide to ensure:
 - Consistency (within and across subject areas)
 - Accessibility
 - Quality
 - Flexibility
- ♦ Zach brings data management issue up to IEP Management team.
- ♦ Bay Delta Science Consortium examining issue.
- ♦ Needs explicit statement in plan report (SAT reports and EMP report).
- ♦ Include horror stories.
- ♦ Include recommendations.

Participants then addressed three issues -

- *What guidance do you have for SAT leaders when they meet later in August to integrate the reports/recommendations?*
- *What are the rocks in your shoes, if any, that need discussion before we go further?*

- *What reflections do you want to offer on 6today's meeting or the overall review process?*

Input to SAT Leaders

- Be specific
 - The more specific, the better.
- Prioritization
 - 5-year time frame.
- Use consistent goals and criteria
 - Apply across the program and within each element.
- Capture why of priorities so SAG knows what the process was.
- Consider whether to say anything and, if so, what to say regarding contaminate effects.

Rocks in Shoes

Not much changes. What can we do to increase chances of recommendations being taken seriously?

- Show CALFED as customer.
- Champions for recommendations get them to SWRCB.
- SWRCB open to changes.
SWRCB can create legal obligation.
- Champions build support with other stakeholders.

Reflections

- Spirit of cooperation.
- Compliments to core team and staff.
- Progress since May 8.
- Impressive.